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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,681	02/07/2001	Kazuo Hakamata	Q61216	3338

7590 05/14/2002

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EXAMINER

LEE, SHUN K

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 05/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/777,681

Applicant(s)

HAKAMATA, KAZUO

Examiner

Shun Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of prevented from reading species (claim 3) in Paper No. 5 is acknowledged.
2. Claims 1, 2, and 8 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.84(h)(5) because Figure 1 show(s) modified forms of construction in the same view. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarev *et al.* (US 5,986,271) in view of Wilder *et al.* (US 5,262,871).

In regard to claims 3 and 4, Lazarev *et al.* disclose (Fig. 2) a fluorescence imaging apparatus, comprising:

- (a) excitation light irradiating means (16) for irradiating excitation light to a measuring site (51), the excitation light causing the measuring site (51) to produce fluorescence (column 5, lines 1-3),
- (b) imaging means (28) for imaging the fluorescence, which has been produced from the measuring site (51) when the excitation light is irradiated to the measuring site (51), wherein the imaging means (28) is provided with a charge transfer type of image sensor (column 11, lines 45-55), which comprises a plurality of pixels arrayed in two-dimensional directions and which has a fluorescence imaging region (30 and 32 in Fig. 3) utilized for the imaging of the fluorescence and a non-imaging region other than the fluorescence imaging region (*i.e.*, region 28 other than regions 30 and 32 in Fig. 3), and
- (c) imaging control means (34) for controlling operations of the imaging means (28).

The fluorescence imaging apparatus of Lazarev *et al.* lacks that the imaging control means controls such that, when signal charges are to be read from the image sensor, signal charges, which have been accumulated in pixels falling within a certain area of the non-imaging region, are read with signal charges, which have been accumulated in pixels falling within the other area of the non-imaging region, are prevented from being read. Wilder *et al.* teach (column 6, lines 40-44; column 17, lines 64-66) to read only

sensor array pixels within regions of interest in order to read multiple regions of interest while minimizing the time required to access and digitize pixel signals (column 1, line 48 to column 2, line 6). Therefore it would have been obvious to one having ordinary skill in the art to read only sensor array pixels within regions of interest (e.g., 30 and 32) in the fluorescence imaging apparatus of Lazarev *et al.*, in order to read a multiple region of interest while minimizing the time required to access and digitize pixel signals as taught by Wilder *et al.*

In regard to claim 5 which is dependent on claim 3 or 4, the fluorescence imaging apparatus of Lazarev *et al.* lacks that the image sensor is provided with a clearing section for clearing signal charges, which have been accumulated in pixels.

Wilder *et al.* also teach (column 17, line 62 to column 18, line 6) a first reading frame (*i.e.*, clearing section) where pixel signals are discarded in order to prevent spurious data. Therefore it would have been obvious to one having ordinary skill in the art to provide a clearing section (*i.e.*, first reading frame) in the fluorescence imaging apparatus of Lazarev *et al.*, in order to prevent spurious data as taught by Wilder *et al.*

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarev *et al.* (US 5,986,271) in view of Wilder *et al.* (US 5,262,871) as applied to claims 3-5 above, and further in view of Talmi *et al.* (US 5,821,547).

In regard to claim 6 (which is dependent on claim 3 or 4) and claim 7 (which is dependent on claim 5), the modified fluorescence imaging apparatus of Lazarev *et al.* lacks that the image sensor is provided with horizontal shifting means, from which the signal charges are read in one direction, the imaging control means controls such that

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the signal charges having been accumulated in the pixels are transferred to the horizontal shifting means and are then read from the horizontal shifting means, and the fluorescence imaging region is located at a position shifted from a center position on an imaging surface of the image sensor toward a side corresponding to a read-out side of the horizontal shifting means. Lazarev *et al.* also disclose (Fig. 3) that an fluorescence imaging region (e.g., 30) is located at a position shifted from a center position on an imaging surface of the image sensor (28). Talmi *et al.* teaches (column 4, line 58 to column 5, line 3) a horizontal shifting means (*i.e.*, shielded portion) such that the signal charges having been accumulated in the pixels are transferred to the horizontal shifting means in order to increase the signal to noise (column 5, lines 21-40). Therefore it would have been obvious to one having ordinary skill in the art to provide a horizontal shifting means for the off-centered fluorescence imaging region (30) in the fluorescence imaging apparatus of Lazarev *et al.*, in order to increase the signal to noise as taught by Talmi *et al.*

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### **Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860. The examiner can normally be reached on Tuesday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SL  
May 9, 2002

  
CONSTANTINE HANNAHER  
PRIMARY EXAMINER  
GROUP ART UNIT 2878